

Table 3.1 Non-Standard Parts for the Microphone Mounting Fixture

Part No.	Part	Materials	Quantity
SI-2-001	SI Probe Holder	Aluminum	2
SI-2-002	SI Probe Mounting Plate	Aluminum	2
SI-2-003	SI Vertical Back Plate	Aluminum	1
SI-001	Vertical Slide Bar	½ in thick Aluminum	1
SI-002	Vertical Slider – Bearing Holder	Aluminum	1
SI-006	Wheel Mounting Plate	Aluminum	1
SI-008	Sound Intensity Probe	Black Delrin	2
SI-009	Torque Restraint Bracket	0.25 in thick Polycarbonate	1
SI-010	Extended Lug Nut	HT 4140	6

Table 3.2 Standard Parts for the Microphone Mounting Fixture

No.	Part/Description	Size	Quantity
1	Allen Head Screw	¼ - 20 × 3/4	9
2	Allen Head Screw	½ - 13 × 1	2
3	Allen Head Screw (Full Thread)	3/8 – 16 × 2 ¼ or 2 1/2	4
4	Flat Head Screw	¼ - 20 × 3/4	2
5	Lock Nut	½ - 13	1
6	Plastic Tubing	5/16 IN × 12 (7/16 OD)	1
7	Threaded Rod	5/16 – 18 × 12	1
8	Lock Nut	5/16 - 18	1
9	Lock Nut	3/8 - 16	4
10	Washers	3/8	8
11	Washers	1/4	4
12	Washer	3/4	1
13	Nut	5/16 - 18	1
14	Plastic Shaft. Collar (Grainger)	Stock No. 1F496, ¾ in dia.	2
15	Mounted Ball Bearing (Grainger)	Stock No. 1F548-0, ¾ dia.	2

3.3 Hardware Acquisition and PULSE[®] System Installation

Task 2 started at the same time as Task 1, and continued for approximately five months. When the acquisition of the OBSI parts, including Standard Reference Testing Tire (SRTT), was completed, the OBSI system was installed on the selected test vehicle. For this research project, a 2008 Chevrolet Impala LS passenger vehicle was used. The Impala is one of the preferred passenger cars for OBSI testing (others include Chevrolet Malibu, Toyota Camry, Hyundai Sonata). The OBSI system was set up and adjusted to the requirements needed for OBSI tire-pavement noise data collection. Trial testing for sound intensity noise capturing was conducted in-house at ECU in January 2010.